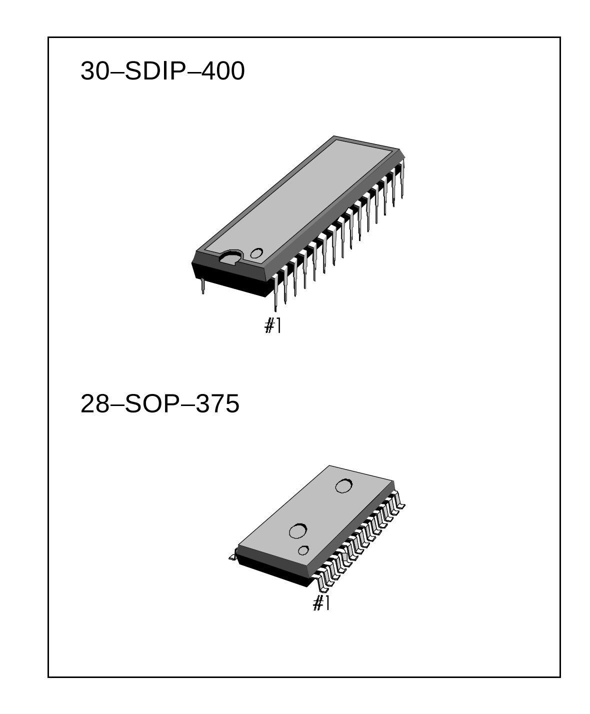
INTROCUCTION

The S1A0426C02 is a monolithic integrated circuit designed for radio cassette tape recorders, clock radios and headphone radios.



FUNCTIONS

- AM/FM RF AMP
- AM AGO Control
- Audio Power AMP
- DC Volume
- FM Quadrature DET
- AUDIO MUTE
- Local OSC
- FM AFO Control
- Tuning Indicator
- AM/FM IF AMP
- AM DET

FEATURES

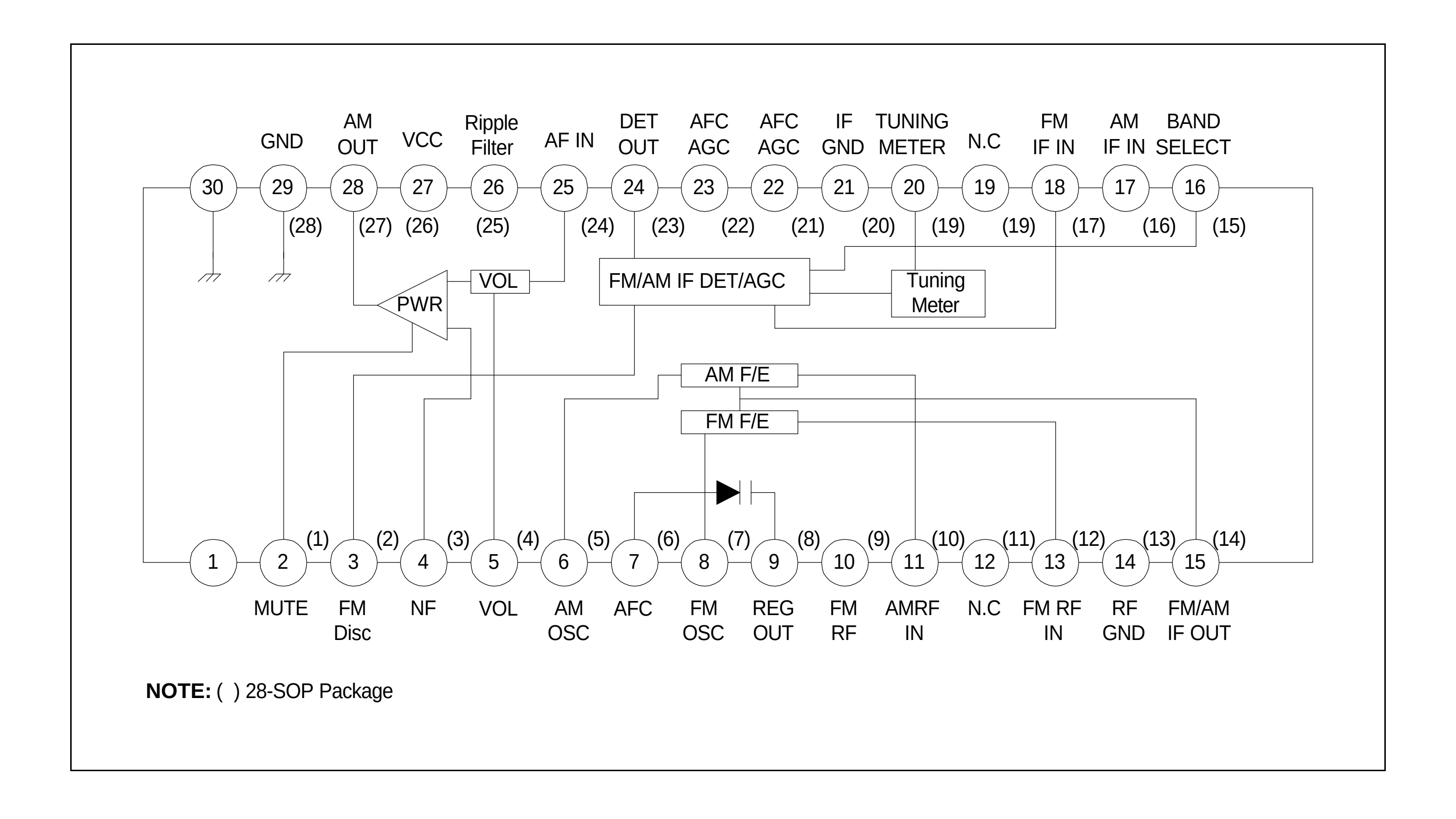
- Built-in AM/FM Switching Circuit
- Wide operating supply voltage: V_{CC} = 2V – 8.5V
- Low current consumption (V_{CC} = 3V)
  — FM: I_{CCQ} = 5.3 mA (Typ)
  — AM: I_{CCQ} = 3.4 mA (Typ)
- High Power Audio Amplifier: 0.5W (typ) at V_{CC} = 6V,
- RL = 8Ω, THD = 10%

ORDERING INFORMATION

Device	Package	Operating Temperature
S1A0426C02-A0B0	30–SDIP–400	–20°C – +70°C
S1A0426C02-S0B0	28–SOP–375	–20°C – +70°C



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	9	V
Power Dissipation	P_D	1000	mW
Operating Temperature	T_{OPR}	–20 – +70	°C
Storage Temperature	T_{STG}	–40 – +125	°C

ELECTRICAL CHARACTERISTICS

(V_{CC} = 6 V, Ta = 25 °C, FM; Δf = 22.5 kHz, fm = 1 kHz, AM; 30% Mod, unless otherwise specified)

	Characteristic	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
FM	Quiescent Circuit Current	$I_{CCQ}(1)$	V_I = 0	–	7.0	14.0	mA
	F/E Voltage Gain	$G_V(1)$	$V_I(1)$ = 40dBμ, fc = 100MHz, Δf = 0	32	39	46	dBμ
	Detect Output Gain	$V_O(1)$	$V_I(3)$ = 90dBμ, fi = 10.7MHz	–26	–20	–14	dBm
	IF-3 dB Sensitivity	$V_{I\ (LIM)}$	Vo(VI3) = 90dBμ, –3dB, fi = 10.7MHz	–	24	32	dB
	Total Harmonic Distortion	THD_1	$V_I(3)$ = 90dBμ, fi = 10.7MHz (Δf = 75kHz)	–	0.3	2.0	%
	Meter Drive Current	I_M (1)	$V_I(3)$ = 60dBμ , fi = 10.7MHz	1.8	3.5	7.0	mA
AM	Quiescent Circuit Current	$I_{CCQ}(2)$	V_I = 0	–	3.5	10.0	mA
	F/E Voltage Gain	$G_V(2)$	$V_I(2)$ = 60dBμ, fc = 1660kHz, m = 0%	15	22	29	dB
	IF Voltage Gain	$G_V(3)$	Vo(3) = –34dBm, fi = 455kHz	14	20	27	dBμ
	AM Detect Output Voltage	$V_O(2)$	$V_I(3)$ = 85dBμ, fi = 455kHz	–26	–20	–14	dBm
	Total Harmonic Distortion	THD_2	$V_I(2)$ = 95dBμ, fc = 1660kHz, Vcc = 7.8V	–	0.6	2.0	%
	Meter Drive Current	$I_M(2)$	$V_I(3)$ = 85dBμ, fi = 455kHz	1.3	3.0	7.0	mA
AF	Closed Loop Voltage Gain	$G_V(4)$	Vo(4) = 0dBm, f = 1kHz	27	31.5	36	dB
	Total Harmonic Distortion	THD_3	Po = 50mW, f = 1kHz	–	0.3	2.5	%
	Output Power	P_O	R_L = 8Ω, THD = 10%, f = 1kHz	0.4	0.5	–	W
	Mute Level	M_L	Po = mW, Vi(4) = 30dBm 1kHz, V1(3) = FF	8	15	22	dB



APPLICATION CIRCUIT

